# Task 1

Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste a print screen into the provided boxes below:

1. In the sheet ‘retail\_sales\_dataset’ add all available data between columns **A – H** into a ‘table’
2. Using the ‘filter’ function, filter ‘Age’ to ‘largest to smallest’
3. Using the ‘SUM’ function, show me the commission total in cell ‘**P10’**
4. Using the ‘AVERAGE’ function, show me the average commission in cell **‘P11’**

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| Print screen 1 | 1. In the sheet ‘retail\_sales\_dataset’ add all available data between columns **A – H** into a ‘table’ |
| Print screen 2 | 2. Using the ‘filter’ function, filter ‘Age’ to ‘largest to smallest’ |
| Print screen 3 | 3. Using the ‘SUM’ function, show me the commission total in cell ‘**P10’** |
| Print screen 4 | 4. Using the ‘AVERAGE’ function, show me the average commission in cell **‘P11’** |

# Task 2

Task 2 in Students worksheet, paste print screens into the provided box below:



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| Print screen 1 | 1) Apply filter and sorting to show the best students in each subject.  Method A: Filter & Sort: Largest to Smallest (Expand and sort)    Method B: by Formula:  ="MAX "&B1&": "&TEXTJOIN(", ",TRUE,FILTER($A$2:$A$11,B$2:B$11=MAX(B$2:B$11)))&" ("&MAX(B$2:B$11)&")"  MAX English: Linda (90)  MAX Mathematics: Carol (85)  MAX Science: Ted (90)    2) Calculate the average for all students and fill into Column E. (Use formula)    3) Using the =MAX fucntion, tell me what the students highest score was in column F.    4) Apply filter and sorting to show the best student in this classroom by average.    5) Apply filter and sorting to show the best student in this classroom by highest score.    6) Use conditional formatting to clearly identify the highest and lowest average scores |

# Task 3 Students.xlsx

Please paste your final pivot table below and complete the reflection questions:

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| Print screen 1 | PivotTableSales:  =PROPER(TRIM(I2)), flashfill range Country Proper Trim  In the database, created a new column “Country Proper Trim” next to “Country” to eliminate multiple appearances of the same country written slightly differently (as United States initially appeared 3x in the pivot table). |
| In which markets do Germany have customers? | Using the Age Group × Gender data breakdown:    Germany   * Youth (<25), Female: 0 * Youth (<25), Male: 0 * Young Adults (25-34), Female: 0 * Young Adults (25-34), Male: 0 * Adults (35-64), Female: 8 * Adults (35-64), Male: 5   Total for Germany: 13  This means Germany only has sales in the Adults (35-64) category, with 8 female and 5 male orders, and no sales among Youth or Young Adults. |
| What country has sales in all markets? | Pivot table – Settings – For emplty cells show – Checkbox (delete 0, leave blank)    =COUNTA(C5:C6,C8:C9,C11:C12), flashfill range Country  Prints number of non-empty cells (therefore, picks up sales in markets)  =IF(C33=MAX($C$33:$J$33),C4), flashfill range Country  Prints Country(s) if non-empty cells equal MAX(range of non blank cells) (all markets, 6)  Conditional formatting: Highlight in Green if Cell value <> FALSE    Result: Australia and UK have sales in all markets (6). |
| What are the most profitable markets by country, age group, and gender? | New pivot table: PivotTableProfits  1.  =IF(C14=MAX(TotalProfitRange),C4), flashfill for country range  Prints Country(s) with MAX total profits.  Conditional formatting: Highlight in Green if Cell value <> FALSE  Result: United States  2.  =IF(I7=MAX(I$7,I$10,I$13),A5),  =IF(I10=MAX(I$7,I$10,I$13),A8),  =IF(I13=MAX(I$7,I$10,I$13),A11).  Prints Age Group with MAX total profits.  Conditional formatting: Highlight in Green if Cell value <> FALSE  Result: Adults (34-64)  3.  =IFS(SUM(I5,I8,I11)=MAX(SUM(I5,I8,I11),SUM(I6,I9,I12)),"Female",SUM(I6,I9,I12)=MAX(SUM(I5,I8,I11),SUM(I6,I9,I12)),"Male")  Prints Gender with MAX total profits.  Conditional formatting: Highlight in Green if Cell value <> FALSE  Result: Female    Most profitable markets:   * By country: US * By age group: Adults (34-64) * By gender: Female |
| Any other findings? | **Market and Demographic Insights:**  * **Overall Market Performance:**   + The **U.S.** and **Australia** drive the highest profits (**$60,370** and **$50,326** respectively) and order volumes (**66** and **63** orders respectively), representing key markets.   + **Canada**, **Germany**, and the **UK** show significantly lower engagement and profitability, indicating untapped market potential. * **Demographic Profitability:**   + **Adults (35-64)** generate the highest profit (**$93,496**) and the most orders (**99 orders**), indicating strong profitability per order.   + **Young Adults (25-34)**, especially females in Australia, show fewer orders but remarkably high profit per order, making them a lucrative segment.   + **Youth (<25)** are the least profitable demographic (**$16,050**) with low orders (**27** total), highlighting opportunities to foster long-term engagement. * **Gender-Based Disparities:**   + Females consistently outperform males in profitability and order volume across most segments, especially notable in **Australia** and the **U.S.**   + Male engagement is notably weaker, particularly among **Young Adults in Australia** and **Youth in Canada**, suggesting specific opportunities to better target and grow these segments.   + In **Germany and the UK**, females show significantly weaker presence, particularly among Young Adults, indicating a critical need for tailored female-focused engagement strategies.  **Strategic Recommendations:**  * **Maximize Existing Strengths:**   + Reinforce marketing efforts targeting Adult females (35-64) in the **U.S.** and **Australia**, who represent the highest profits and strong order frequency.   + Deepen engagement with Young Adult females (25-34) in **Australia** due to exceptional profitability per transaction. * **Address Gaps and Opportunities:**   + Implement targeted campaigns and promotions to attract more **Young Adult males** in **Australia** and **Youth males** in **Canada**, currently underrepresented segments.   + Launch tailored engagement strategies aimed at increasing female participation in **Germany** and the **UK**, particularly focusing on Young Adults. |

# Task 4 tech\_shop.xlxs

The dataset below tracks the sales performance of different products in various counties in England. Please paste the dataset into a blank Excel workbook. Your task is to:

* **Create a Pivot Table** to summarise the data by county and product.
* **Use the SWITCH function** to categorise products based on their sales volume.

#### **Dataset:**

|  |  |  |
| --- | --- | --- |
| **County** | **Product** | **Sales Volume** |
| Yorkshire | Laptops | 500 |
| Yorkshire | Smartphones | 200 |
| Cornwall | Laptops | 700 |
| Cornwall | Printers | 400 |
| Lancashire | Smartphones | 150 |
| Lancashire | Laptops | 600 |
| Essex | Printers | 800 |
| Essex | Smartphones | 300 |
| Durham | Laptops | 250 |
| Durham | Printers | 300 |
| Greater Manchester | Smartphones | 600 |
| Greater Manchester | Laptops | 400 |

#### **Step 1: Create a Pivot Table**

* Select the dataset (columns A to C).
* Insert a Pivot Table to summarise the data by **County** in the rows and **Products** in the columns. Use **Sales Volume** as the value to be summarised.

#### **Step 2: Use the SWITCH Function**

In a new column next to your data, use the SWITCH function to categorise products based on **Sales Volume** as follows:

* + For sales greater than 600: **"High"**
  + For sales between 300 and 600: **"Medium"**
  + For sales less than 300: **"Low"**

**SWITCH Function Example**:

=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")

* Apply this formula to each row, and check if the products are categorised correctly.

#### **Submission:**

* A completed Pivot Table summarising sales by county and product.
* A new column in the dataset categorising products by sales volume using the SWITCH function.
  + Please paste your completed work below

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| --- | --- |
| Print screen 1 | **Step 1: Create a Pivot Table**   **Step 2: Use the SWITCH Function** original SWITCH formula:  =SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium-", "Low")  didn't work correctly, giving "High" to every value.  Correct formula:  =SWITCH(TRUE,C2>600, "High", AND(C2>=300, C2<=600), "Medium", C2<300, "Low") |

# Task 5 bike\_sales.xlsx/ visualisations

Please paste your results below:

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| Print screen 1 | Part 1: Creating and formatting a Line Chart    Part 2: Creating and formatting a Column Chart    Part 3: Creating and formatting a Pie Chart |